

AMENDMENTS TO THE CLAIMS:

The following listing of the claims replaces all prior versions, and listings, of the claims in this application:

Listing of claims:

1. (Currently amended) A method for image compression while maintaining high resolution in selected areas within ~~said an~~ image, comprising:
 - a) representing an acquired image by a two dimensional array of $M \times N$ pixels;
 - b) dividing said array into blocks of identical rectangular areas, each of said blocks ~~containing~~ having a block size of $A \times B$ pixels, wherein $A < M, N$ and $B < M, N$ and $M = m \times A$ ($m = 2, 3, \dots$) and $N = n \times B$ ($n = 2, 3, \dots$);
 - c) storing data related to ~~the a~~ division of said array into blocks;
 - d) for each pixel, defining a pixel attribute value;
 - e) for each pixel, determining a represented value, being a representation of said pixel attribute value;
 - f) ~~e~~ determining a threshold level for said pixel attribute value;
 - g) ~~f~~ calculating a represented value for each block and storing said represented value;
 - h) ~~g~~ comparing the represented value of each block to the represented value of its adjacent blocks;
 - i) ~~h~~ whenever the difference between the represented values of two adjacent compared blocks is greater than said threshold level and as long as the block size is larger than one pixel, performing the following steps:

- h.1) dividing said adjacent compared blocks into sub-blocks, each of which containing $A/2 \times B/2$ pixels and storing data related to ~~the~~ a division of said adjacent compared blocks into sub-blocks;
 - h.2) calculating and storing the represented value for each sub-block and for its adjacent sub-blocks;
 - h.3) comparing the stored represented value of each sub-block to the stored represented value of its adjacent sub-blocks; and
 - i) ~~i)~~ whenever the difference between two adjacent compared blocks or sub-blocks is lower than, or equal to, said threshold level, representing said blocks or sub-blocks by representative pixels with identical attribute level which is equal to the represented value of the pixels that correspond to said compared block or sub-block, thereby compressing said image.
2. (Currently amended) A method according to claim 1, wherein the pixel attribute value is ~~the~~ pixel's intensity and/or any pixel's attribute that can be represented by an analog value.
3. (Currently amended) A method according to claim 1, wherein the represented value of a block is a value being the average value of all the attribute valuevalues of ~~the~~ pixels in said block.
4. (Currently amended) A method according to claim 1, wherein the represented value of a block is a value being the variance of all the attribute valuevalues of ~~the~~ pixels in said block.
5. (Currently amended) A method according to claim 1, wherein the represented value of a block is a value being the standard deviation of all the attribute valuevalues of ~~the~~ pixels in said block.

6. (Currently amended) A method according to claim 1, wherein the represented value of a block is a value being the difference between the maximal highest pixel's attribute value in said block and the minimal lowest pixel's attribute value in said block.
7. (Currently amended) A method according to claim 1, wherein the stored represented value of each sub-block is an analog value.
8. (Original) A method according to claim 1, wherein the stored data related to the division of said array into blocks and/or into sub-blocks is a digital value.
9. (Original) A method according to claim 1 or 8, wherein the stored data related to the division of said array into blocks and/or into sub-blocks comprises indications that corresponds to location of said blocks or sub-blocks in the two-dimensional array.
10. (Currently amended) A method according to claim 1, further comprising coding the compressed image by ~~the representative pixels and the stored data related to the division of the array into blocks and/or sub-blocks, prior to the transmission of said compressed image.~~
11. (Currently amended) A method according to claim 1, wherein the image compression is carried out in real-time by performing the following steps of:
- k) ~~j)~~ reading a group of rows from the two-dimensional array, which corresponds to a block dimension;

- l) ~~k)~~ concurrently or parallelly, compressing ~~the~~a portion of said image that corresponds to said group of rows and reading ~~the~~a next group of rows, being subsequent to said group, from the two-dimensional array, which corresponds to ~~the~~dimension of another block;
- m) ~~l)~~ repeating steps j) and k) ~~above~~ until all ~~the~~rows of said two-dimensional array are read.

12. (Currently amended) Apparatus for image compression (400) while maintaining high resolution in selected areas within an image, comprising:

- a) a two-dimensional array (300) of MxN pixels;
- b) a data storage bank for storing a group of pixels from said array;
- c) sensor means (401) for sensing ~~the~~analog values ~~defined~~defined as ~~the~~pixels ~~attributes~~; attribute values;
- d) circuitry for calculating ~~a represented value~~, from said ~~attributes~~ (403), a represented value for said group of pixels;
- e) a set of one or more comparators (405) for comparing ~~the~~difference between ~~the~~said represented value ~~of said group of pixels~~ and ~~the~~a represented value of another group of pixels, to a predetermined threshold value;
- f) circuitry for storing data (404) that represent one or more adjacent groups of pixels, for which said difference is not greater than said represented value; and
- g) control circuitry (410) for controlling data transfer between said two dimensional array and ~~the~~said data storage bank, for controlling the ~~operations of said calculating circuitry for calculating~~, for controlling ~~the operations of~~said set of one or more comparators and for controlling data transfer into said ~~storage circuitry for storing data~~.

13. (Currently amended) Apparatus according to claim 12, wherein the data storage bank is a capacitor bank (402).
14. (Currently amended) Apparatus according to claim 12, wherein the attribute value is ~~the~~ an pixel's intensity of a pixel and/or ~~any pixel's attribute of a pixel~~ that can be represented by an analog value.
15. (Currently amended) Apparatus according to claim 12, comprising circuitry (404) for storing one or more analog values and/or circuitry (404) for storing one or more digital values.
16. (Currently amended) Apparatus according to claim 12 or 15, further comprising circuitry (404) for storing data related to ~~the~~ a division of said array into blocks and/or into sub-blocks, and/or indications that corresponds to location of said blocks or sub-blocks in the two-dimensional array (300).
17. (Currently amended) Apparatus according to claim 12, further comprising circuitry (406) for coding the compressed image by the representative pixels and the stored data related to ~~the~~ a division of the array into blocks and/or sub-blocks, ~~prior to the transmission of said compressed image.~~
18. (Currently amended) Apparatus according to claim 17, further comprising circuitry (407) for transmitting ~~the~~ coded compressed image.